

LRFD Bridge Design Manual Update ~ July 2015

BDM Articles Updated	Description of BDM Update
Entire BDM Updated	All BDM chapters have been updated. All update markups prior to July 2015 have been accepted and the markups have been removed. All articles will be designated with a July 2015 date. Markups for the July 2015 release are included.
Preface, 1.4.1, 13.2.1	As of July 1, 2015 IDOT has adopted the 7 th Edition (2014) of the AASHTO LRFD Bridge Design Specifications.
1.8.8.2	A new plan sheet entitled “Beam Data Worksheet” will be included in let PPCB plan sets per the request of the Office of Construction and Materials. The sheet will document design and field information related to PPCB camber and haunching.
1.8.14, 1.9.7, 1.14	Articles 1.8.14 and 1.9.7 are new BDM articles addressing the OBS policy decision to include signed standard plan sheets as part of the turn-in package to the Office of Contracts.
1.15	Procedure for plan addendums has been updated to address the new process of including plan sheets in the addendum request and a notation on the new plan sheets indicating the addendum number.
3.1.3	New definitions for bridge backwater, freeboard and stage.
3.2.2	Added definition for stage as related to the hydraulic data block.
3.2.2.1	Added language that for Iowa DOT projects within detailed FIS areas, a “No-Rise” certification is not required.
3.2.2.4	Revised definition of freeboard.
3.2.6.1.7	Revised minimum end span ratio for continuous welded plate girder bridges.
3.2.6.2.1	Revised language regarding considerations for bridges where light pole blisters or sign trusses are proposed in the median between two bridges.
3.2.7.4	Added guidance regarding the preferred design approach to address collision load requirements at median piers.
3.2.8	Updated Table 3.2.8 Preliminary costs for typical Iowa bridges.
3.2.10.1	Added statement that a “no-rise” certification will not be required for Iowa DOT projects.
3.2.10.1	Removed direction to submit a copy of the flood plain permit package to Sovereign Lands Construction Permit Program when the Sovereign Lands Construction Permit is not required.
5.1.1	Due to the potentially higher costs of rolled steel beam bridges with flange widths greater than 12 inches, an alternate set of PPCB plans shall be provided for bidding.
5.2.1.1	Clarification regarding use of stainless steel rebar for staged construction joints with rebar exposed to UV for more than one season. In general when stainless steel rebar is provided it shall lap epoxy-coated bars on either side of the staged construction joint.
5.2.4.1.2	Providing a permissible longitudinal construction deck joint is now

	required for gutter to gutter roadway widths greater than 80 feet for constant and tapered width bridges. The previous limit was 60 feet.
5.2.4.1.2	Added language to alert designers to consider the influence of temporary barrier rail on bridge deflection for deck closure pours.
5.3.3.1, 5.3.3.2, 5.3.4.1, 5.3.4.2, C5.3.3.2	Plan details for steel girder deflections, camber, and haunching have been modified.
5.4 various sub-articles	Renumbered articles after deleting Article 5.4.1 Standard. Removed references to discontinued beam series (i.e. LXA-LXD, AM-DM, BT, BTM, BTCM-BTDM). Removed references to Dead Load 1 and Dead Load 2. Made various minor corrections.
5.5.2.1.1, C5.5.2.1.1	Minimum end span length for continuous steel girder bridges shall be 60% of adjacent interior span length. Previously the minimum end span length was 54%.
5.5.2.1.1, 5.5.2.1.5, 5.5.2.4.3, 13.9.1, 13.9.2	A steel dead load fit (SDLF) for the intended erected position is generally preferred for straight and curved CWPG bridges. Previously a no-load fit (NLF) was generally preferred.
5.5.2.4.1.2	Clarified that CVN impact energy requirements in the Iowa DOT Standard Specifications correspond with nonfracture-critical requirements for Temperature Zone 2 in the AASHTO-LRFD Specifications [AASHTO-LRFD 6.6.2].
5.5.2.4.1.14	Clarified that all high strength bolted connections are slip-critical connections based on the language in the Iowa DOT Standard Specifications.
5.7.4.2.1	Corrected text concerning elastomeric bearing rotation limit.
5.8.1.1.1, C5.8.1.1.1	Clarified the requirements regarding conduit and lighting placed in barrier rails.
C5.8.1.1.1	Included a statement prohibiting use of PVC conduit in concrete barrier rails.
5.8.4.2.2	Updated reference to rock splash basin detail.
6.3.1.1, 6.3.4	The depth of drilled shaft rock sockets shall now extend an additional 12" into the rock beyond what is required for geotechnical capacity in order to minimize construction issues.
6.6.4.1.3.1	Added a statement addressing concrete cover thickness, d_c , to be used when checking distribution of bottom reinforcement in a pile footing for crack control particularly when bottom reinforcement is placed just above the piles.
7.1.1, 7.3	Twin precast RCBs (i.e. two side-by-side single precast boxes) will now be specified as an alternate to CIP twin RCBs where the settlement and fill height requirements are met for precast boxes.
7.2.4.4.1	Class 20 culvert excavations shall be computed using a width 4 feet greater than the inside width of the culvert. Previously the excavation limit was based on a width 2 feet greater than the width of the culvert footing.
7.2.4.5.2.1	Clarified that end barrels adjacent to flumes should have a minimum length of 10 feet.
12.1.9.2.2.2	Clarified for dual bridges it is not necessary to update the thrie beam connection for the trailing end because guardrail will not be used in a head-to-head staging operation.

13.9.2	Updated CADD Note E926 to require the Engineer to determine if a retarding admixture is needed for approved alternate deck pour sequences for PPCB bridges. This updated note is required on all applicable plan sets starting with the January 2016 letting.
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